

sheet, the light diffusing sheet has a haze value of 30% or more and shifts the direction of the maximum intensity direction of the second diffused light toward the direction of the normal standing on the light outputting surface of the diffusing sheet by virtue of the rougher light outputting surface, a polarized beam splitting sheet which receives the second diffused light from the light outputting surface of the light diffusing sheet, through which one polarized light component of the second diffused light is transmitted, and on which the other polarized light component is reflected, and a light reflecting sheet which is arranged on the back face of the lightconductor and is for reflecting a light into the lightconductor, and the liquid crystal panel is arranged at the light outputting surface side of the polarized beam splitting sheet of the back light device.

Please add new claims 13 and 14 as follows:

- 13. A back light device according to claim 1, wherein the light diffusing reflectivity of the light reflecting sheet is 70 or more.--
- 14. A liquid crystal display apparatus according to claim 6, wherein the light diffusing reflectivity of the light reflecting sheet is 70 or more.--

REMARKS

Claims 1-14 are pending. By this Amendment, claims 1 and 6 are amended, and claims 13 and 14 are added. Reconsideration based on the above amendments and following remarks is respectfully requested.

The attached Appendix includes marked-up copies of each rewritten claim (37 C.F.R. §1.121(c)(1)(ii)).

I. The Claims Define Allowable Subject Matter

The Office Action rejects claims 1, 6, 11 and 12 under 35 U.S.C. §103 as unpatentable over the admitted prior art in view of Heembrock and further in view of Shimomaki et al.; claims 2 and 7 under 35 U.S.C. §103 as unpatentable over the admitted

prior art in view of Heembrock and further in view of Yokota; claims 3 and 8 under 35 U.S.C. §103 as unpatentable over the admitted prior art in view of Heembrock and further in view of Broer; and claims 1, 4-6, 9-11 and 12 under 35 U.S.C. §103 as unpatentable over Ouderkirk in view of Farrell, Heembrock and Shimomaki. The rejections are respectfully traversed.

Claims 1 and 6 are amended to recite that the light diffusing sheet has a haze value of 30% or more. This recitation is supported in the specification at least at page 14, line 1 and page 20, line 1.

Shimomaki does not disclose a haze value of 30% or more.

Further, it would not be obvious to modify Shimomaki to make up for this deficiency. Specifically, Shimomaki discloses that if the haze value is 25% or more, light emerging through the polarizing plate 130 is scattered greatly, resulting in an unclear display image at col. 12, lines 60-63. Thus, Shimomaki teaches away from utilizing a haze value of 30% or more to obtain a clear display and prevent reflection of an external image.

Further, new claims 13 and 14 recite that the light diffusion reflectivity of the light reflecting sheet is 70 or more. This feature is disclosed in the specification at least at page 20, lines 2 and 3.

None of the other applied art makes up for the above deficiencies.

For at least these reasons, it is respectfully submitted that claims 1 and 6 are distinguishable over the applied art. Claims 2-5 and 7-14, which depend from claims 1 and 6, are likewise distinguishable over the applied art for at least the reasons discussed as well as for the additional features they recite. Withdrawal of the rejections under 35 U.S.C. §103 is respectfully requested.

II. Conclusion

For at least the reasons discussed above, it is respectfully submitted that this application is in condition for allowance.

Should the Examiner believe that anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,



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Attachment:
Appendix

Date: April 10, 2002

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APPENDIX

Changes to Claims:

Claims 13 and 14 are added.

The following are marked-up versions of the amended claims:

1. (~~Five~~ Six Times Amended) A back light device comprising:

a light source;

a lightconductor in a substantial plate form comprising a front face, a back face and side end faces,

light radiated from the light source and made incident on the one of the side end faces being output as a first diffused light having a peak oblique to the normal standing on a light outputting surface therefrom which is the front face;

at least one light diffusing sheet for receiving, on its face, the first diffused light output from the light outputting surface of the lightconductor, and outputting a second diffused light having a directivity from a light outputting surface of the diffusing sheet opposite to the face of the diffusing sheet, the light outputting surface of the light diffusing sheet being rougher than the face of the at least one light diffusing sheet, the light diffusing sheet has a haze value of ~~40~~30% or more and shifts the direction of the maximum intensity of the second diffused light toward the direction of the normal standing on the light outputting surface of the diffusing sheet by virtue of the rougher light outputting surface;

a polarized beam splitting sheet which receives the second diffused light from the light outputting surface of the light diffusing sheet, through which one polarized light component of the second diffused light is transmitted, and on which the other polarized light component is reflected; and

a light reflecting sheet which is arranged on the back face of the lightconductor and is for reflecting a light into the lightconductor.

6. (~~Five~~Six Times Amended) A back light device for a liquid crystal display apparatus comprising the back light device and a liquid crystal panel, wherein the back light device comprising a light source, a lightconductor in a substantial plate form comprising a front face, a back face and side end faces, light radiated from the light source and made incident on the one of the end side faces being output as a first diffused light having a peak oblique to the normal standing on a light outputting surface therefrom which is the front face, at least one light diffusing sheet for receiving, on its face, the first diffused light output from the light outputting surface of the lightconductor, and outputting a second diffused light, having a directivity from a light outputting surface of the at least one light diffusing sheet opposite to the face of the at least one light diffusing sheet, the light outputting surface of the at least one light diffusing sheet being rougher than the face of the at least one light diffusing sheet, the light diffusing sheet has a haze value of ~~40~~30% or more and shifts the direction of the maximum intensity direction of the second diffused light toward the direction of the normal standing on the light outputting surface of the diffusing sheet by virtue of the rougher light outputting surface, a polarized beam splitting sheet which receives the second diffused light from the light outputting surface of the light diffusing sheet, through which one polarized light component of the second diffused light is transmitted, and on which the other polarized light component is reflected, and a light reflecting sheet which is arranged on the back face of the lightconductor and is for reflecting a light into the lightconductor, and the liquid crystal panel is arranged at the light outputting surface side of the polarized beam splitting sheet of the back light device.